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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,338	07/30/2003	Michael Andrew Parker	HSJ9-2003-0054US1	1393

7590 08/08/2005

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EXAMINER

WATKO, JULIE ANNE

ART UNIT	PAPER NUMBER
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2653

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/631,338

Applicant(s)

PARKER ET AL.

Examiner

Julie Anne Watko

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 25-33 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-12 and 21-24 is/are allowed.
- 6) ☒ Claim(s) 1, 6, 13 and 18 is/are rejected.
- 7) ☒ Claim(s) 2-5, 7, 8, 14-17, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/04/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07/30/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I, claims 1-24, in the reply filed on January 18, 2005, is acknowledged.
2. Claims 25-33 are withdrawn from consideration as drawn to a non-elected invention.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the elected claims are directed.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 6, 13 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Horng et al (US Pat. No. 6632474 B1).

As recited in claim 1, Horng et al show a magnetic head (see Fig. 2) having a magnetoresistive sensor 10, comprising a plurality of sensor layers (see col. 1, lines 20-33); a hard bias/lead structure being disposed at side areas of said sensor layers, said hard bias/lead structure including: a hard bias layer 15 having a crystalline structure and electrical lead layer 18 having an ordered crystalline structure (see col. 7, lines 21-41, especially line 32, "close packed"; see also col. 7, lines 38-41, which show CoPtCr/Rh and CoPtCr/Ir as possibilities for the

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PM/conductor configuration, wherein a layer of Rh is inherently “ordered” insofar as specific atoms (Rh) reside at specific locations (all lattice points) within the crystal structure, and wherein a layer of Ir is inherently “ordered” insofar as specific atoms (Ir) reside at specific locations (all lattice points) within the crystal structure), and wherein said crystalline structure of said lead is epitaxially matched to said crystalline structure of said hard bias layer (see col. 2, lines 30-52, especially lines 45-51, “formation of lead layers on longitudinal bias layers of new hard magnetic material requires careful attention to the physical consequences of crystallographical matching between the magnetic layer and the conducting layer”).

Regarding claim 6: See teachings above for claim 1.

As recited in claim 13, in addition to the above teachings, Horng et al show a hard disk drive including a magnetic head having a magnetoresistive sensor (see abstract, last 2 lines, “suitable for reading high density recorded disks at high RPM”; see also col. 4, lines 20-35, especially line 35, “in drives with appreciably higher RPM”).

Regarding claim 18: See teachings above for claims 1 and 13.

Allowable Subject Matter

6. Claims 2-5, 7-8, 14-17 and 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 9-12 and 21-24 are allowed.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. An excerpt from Muller (“Bulk and Surface Ordering Phenomena in Binary Metal

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Alloys", J. Phys. Condens. Matter v. 15 (2003) pp. 1429-1430 and 1478) provides an illustration of B2 structure (see Fig. 33). Schirmer ("Exploring the limits of functional modification of thin magnetic films", Forschungszentrum Julich (Hannover, Germany: TIB Hannover) March 1999) teaches that "a deeper understanding of the interaction between structural and magnetic properties is essential. Unfortunately the sequence of layers in present magnetic sensor heads is too complex to isolate the influence of a specific interface" (see abstract). Kira et al (US Pat. No. 4639806) show conductor 15 deposited directly upon Co alloy 14 with high coercivity (see col. 4, lines 43-50; see also col. 6, lines 12-32).

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

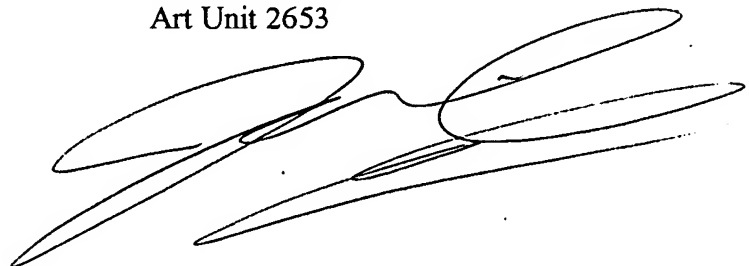
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Anne Watko whose telephone number is (571) 272-7597. The examiner can normally be reached on Tue & Thu until 5, Wed until 3:30, Mon & Fri late.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Julie Anne Watko
Primary Examiner
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August 3, 2005
JAW

A handwritten signature in black ink, appearing to read 'Julie Anne Watko', is written over the printed name and title.